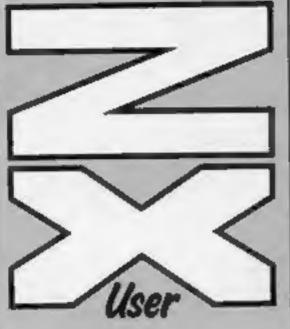




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Free with CONTENTS lome Computing Weekly featuring a miserly vicar whose lust

Welcome to the fifth issue of ZX User. This is your bonus extra for all Spectrum owner - an additional 16-page supplement devoted entirely to the Spectrum.

We're interested in your points of view. Send your comments and observations to us --- and don't forget your listings and tips.

This week you'll find a game

WE WELCOME programs and articles from our readers. If you feel that your work meets our standards, please submit it to us for consideration for publication.

Programs must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free. Include full details of what your program does, how it works, variables you have

both ZX81 and Spectrum to help you get your maths in shape. We hope you enjoy this week's issue. Happy reading!

bars.

You can get into print used and hints on conversion. See the programs in this issue for guidance on what your paperwork should include.

> Articles on using the Spectrum and the ZX81 should be no longer than 2,000 words. Those most likely to be published will help our readers make better use of their computers by giving useful advice, possibly with programming examples, tables and so on. Short hints are also welcome.

All submissions will be acknowledged and the copyright in such works which will pass to Argus Specialist Publications Ltd will be paid for at competitive rates.

for gold takes him in search of gold

There's also a space game in which you face force fields,

asteroids and aliens and a listing for

No. 5

Keep a copy of your work and include and SAE. Label everything clearly and give a daytime and home phone number if you can. All work for consideration should be sent 10:

Paul Liptrot, ZX User, No. 1 Golden Square, London W1R 3AB

Spectrum programpage four Track down the golden nuggets with the miserly man of God

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48K Spectrum programpage eight Journey through Hyperspace, searching out new civilisation

ZX81 and Spectrum programpage ten Use your computer to polish up your maths

> Spectrum software reviewpage thirteen Take your chance and have a gamble on these games

> Spectrum programpage fourteen Echo your computer's thoughts in this brainteasing game

> Spectrum software reviewspage sixteen Rave reviews greet this cluster of solid gold releases

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Here's a novel game for you. In this game you are George the vicar. Your mission is to collect five gold bars (the love of money is the root of all evil, George, so beware!) from any one of 30 rooms.

The

Mean,

Man

of God

Miserly

Your behaviour is obviously not being condoned by the Almighty, as you have 10 different hostile beings to cope with. Each appears three times, so you should really learn your lesson and go back to tending your flock.

If the aliens trap you three times, the game is over and a rendition of Chitty Chitty Bang Bang (how appropriate?) is played while you decide whether you want to take up the challenge again.

If ways appendiate source tool



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a congratulatory message appears on screen accompanied by machine code sound. You will also hear machine code sound when you pass away and move on to pastures new, and when you find an object.

The routine in the program is not used to its full extent and some great sound effects can be found by POKEing the two values shown in the program.

This game runs on both the 16 and 48K Spectrum. To help you find your way through the listing there are numerous REM statements describing the function of each routine. The listing will only run on the 16K Spectrum if all REM lines are omitted.

On screen you will see the outline of a room with doors, which are the exits. You will also see a randomly moving alien, your character and possibly a gold bar. Pick up

the gold bars by walking into them.

These are your controls: Q up, A down, O left, P right.

Weil, Vicar, you're straying from the straight and narrow, and you know it will only lead to destruction — but good luck, anyway!

Variables

- a\${) data for exits from each room
- (1 to 30)
- v() tell computer which rooms should have a gold bar in them
- x,y co-ordinates of character
- a,b co-ordinates of enemy
 number of data line for each
- alien
- a(), c() musical notes

Here's a great original game for you — you'll love this one. You're the Vicar with the lust for gold. Track down those nuggets in this top quality game from Andrew Sanders

How it works 20-590 movement of men and alien routines 600-620 sounds at death 700-730 when a bar has been collected, delete from array v() 1000-1200 construct room 8000-8225 data for various aliens 9000-9050 define UDGs 9100-9190 maze data, tune data, restore line data 9200-9290 initialise, call other routines, set locations of bars 9300-9340 updata lives 9400-9450 routine after dying 9500-9540 machine code sound routine 9600-9640 routine when game is complete

Ø>REM Program by Sanders and Charnock1984 2 REM lines 20 to 390 are character movement routines 5 GO SUB 9200 INK ink;AT a,b;"TEH 15 PRINT INK 7; BRIGHT 1; AT x, y; "I"; AT x+1, y; " " 20 PRINT 25 LET z\$=INKEY\$ 28 IF z#="" THEN GO TO 500 GO TO 200 30 IF z #="0" THEN GO TO 250 40 IF z #="A" THEN 50 IF z\$="0" THEN GO TO 300 60 IF 2\$="P" THEN GO TO 350 70 GO TO 20 200 IF ATTR (x,y-1)=7 AND ATTR (x+1,y-1)=7 THEN LET y=y-1: GO SUB 400: GO TO 5 00 210 IF y=3 THEN LET x=10: LET y=28: LET room=room-1: BEEP .01.0: 60 SUB 1000: LET k=1: GO TO 500 212 IF ATTR (x,y-1) = ink OR ATTR (x+1,y-1) = ink THEN GO SUB 600: CLS : GO TO 93 00 215 IF ATTR (x,y-1)=6 OR ATTR (x+1,y-1)=6 THEN LET obj=obj+1: GO SUB 700: LET y=y-1: GO SUB 400: GO TO 500 230 GO TO 500 250 IF ATTR (x+2,y)=7 THEN LET x=x+1: GO SUB 420: GO TO 500 260 IF x=18 THEN LET x=2: LET y=15: LET room=room+6: BEEP .01,0: GO SUB 1000: LET k=1: GO TO 500 262 IF ATTR (x+2,y)=ink THEN 60 SUB 600: CLS : 60 TO 9300

```
265 IF ATTR (x+2,y)=6 THEN LET obj=obj+1: 60 SUB 700: LET x=x+1: 60 SUB 420: 6
O TO 500
280 GO TO 500
300 IF ATTR (x-1,y)=7 THEN LET x=x-1: 60 SUB 440: 60 TO 500
310 IF x=2 THEN LET x=18: LET y=15: LET room=room-6: BEEP .01,0: GO SUB 1000:
LET k=1: GO TO 500
312 IF ATTR (x-1,y) =ink THEN 60 SUS 600: CLS : 50 TO 9300
315 IF ATTR (x-1,y)=6 THEN LET obj=obj+1: LET x=x-1: GD SUB 700: GD SUB 440: G
0 TO 500
340 GO TO 500
350 IF ATTR (x,y+1)=7 AND ATTR (x+1,y+1)=7 THEN LET y=y+1: GO SUB 460: GO TO 5
66
360 IF y=28 THEN LET x=10: LET y=3: LET room=room+1: BEEP .01,0: GO SUB 1000:
LET k=1: GO TO 500
362 IF ATTR (x,y+1)=ink OR ATTR (x+1,y+1)=ink THEN GO SUB 600: CLS : GO TO 930
365 IF ATTR (x,y+1)=6 OR ATTR (x+1,y+1)=6 THEN LET obj=obj+1: LET y=y+1: GO SU
B 700: GO SUB 460: GO TO 500
390 GO TO 500
400 REM delete man routines
405 PRINT INK 7; BRIGHT 1; AT x, y; "1"; INK 7; BRIGHT 0; AT x, y+1; " "; INK 7; BR
I.
GHT 1;AT x+1,y;" ""; INK 7; BRIGHT 0;AT x+1,y+1;" ": 60 TO 500
 410 RETURN
```

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420 PRINT INK 7; BRIGHT 0:AT x+1,y;" ": INK 7; BRIGHT 1:AT x.y:" ";AT x+1,y;" ": BRIGHT Ø 430 RETURN 440 PRINT INK 7; BRIGHT 0;AT x+2,y:" "; INK 7; BRIGHT 1;AT x+1,y;";AT x,y;" ": BRIGHT Ø 450 RETURN 460 PRINT INK 7; BRIGHT 0; AT x, y-1; " : INK 7: BRIGHT 1; AT x, y; " T"; INK 7; BR GHT 0; AT x+1, y-1;" "; INK 7; BRIGHT 1: AT x+1, y;" ... BRIGHT 0 470 RETURN 500 REM alien movement 505 LET ti=ti+1 510 FOR r=1 TO 2 520 LET v=INT (RND+4)+1 522 IF v=1 AND ATTR (a-1,b)=7 AND ATTR (a-1,b+1)=7 THEN LET a=a-1: PRINT INK 7;AT a+1,b;" "; INK ink;AT a,b;"丁豆": NEXT r 525 IF v=1 AND ATTR (a-1,b)=71 OR ATTR (a-1,b+1)=71 THEN GO SUB 600: CLS : 60 TO 9300 533 IF v=2 AND ATTR (a+1,b)=7 AND ATTR (a+1,b+1)=7 THEN LET a=a+1: PRINT INK 7; AT a-1,b;" ": INK ink; AT a,b; "TU": NEXT r 535 IF v=2 AND ATTR (a+1,b)=71 OR ATTR (a+1,b+1)=71 THEN GO SUB 600: CLS : GO TO 9300 544 IF v=3 AND ATTR (a,b+2)=7 THEN LET b=b+1; PRINT INK 7;AT a,b-1;" "; INK ink;AT a.b: "TU": NEXT r 545 IF V=3 AND ATTR (a,b+2)=71 THEN GO SUB 600: CLS : GO TO 9300 552 IF v=4 AND ATTR (a,b-1)=7 THEN LET b=b-1: PRINT INK 7:AT a,b+1:" ": INK ink;AT a,b;"TU": NEXT r 555 IF v=4 AND ATTR (a,b-1)=71 THEN GO SUB 600: CLS : GO TO 9300 570 NEXT r 580 IF k=1 THEN LET k=0: GO TO 20 590 60 TO 25 604 REM death sound 610 POKE 42501,1: POKE 42504,25: FOR t=1 TO 6: RANDOMIZE USR 42500: NEXT t 620 RETURN 700 REM check 710 FOR em1 TO 5: IF v(e)=room THEN LET v(e)=0 720 NEXT # 725 POKE 42501, 50: POKE 42504, 125: POKE 42507, 40: RANDOMIZE USR 42500 727 IF obj=5 THEN GO TO 9600 730 RETURN 1000 REM draw room 1005 BORDER 0: PAPER 0: INK 7: CLS 1006 INK 4 1010 PLOT 15,169: DRAW 0,-162: DRAW 226,0: DRAW 0,162: DRAW -226.0 1020 PLOT 15,169: DRAW 26,-26: DRAW 0,-111: DRAW 174,0: DRAW 0,111: DRAW -174,0 1030 PLDT 41,33: DRAW -26.-26 1040 PLOT 215,33: DRAW 26.-26 1050 PLOT 215,143; DRAW 26,26

```
1060 INK 7
1080 FOR $=1 TO 4
1090 [F a$(room,s)="1" THEN PRINT INK 4; PAPER 0; AT 1,14; "E-DE": AT 2,14; "0";
AT
2,17:" ";AT 3,14;" ";AT 3,17;" "; PLOT OVER 1;120,43; DRAW OVER 1;15,0
1100 IF a$(room,s)="2" THEN PRINT INK 4; PAPER 0:AT 9.27; "PPE"; AT 10,29; """;
AT
11,29; "4"; AT 12,27: "509"; PLOT OVER 1:215,95: DRAW OVER 1:0,-15
1110 IF a$ (room, s) ="3" THEN FRINT INK 4: PAPER 0:AT 18,14:" ":AT 18,17:" ":AT
19,14;"@";AT 19,17:""";AT 20,14;"E De ": PLOT OVER 1;135,32: DRAW OVER 1;-15,
12
1120 IF a$ (room, s) ="4" THEN PRINT INK 4: PAPER 0:AT 9,2;" PEFF; AT 10,2;" E":AT
 -1
1,2; "#";AT 12,2; "HOD": PLOT OVER 1;41,80: DRAW OVER 1;0,15
1130 NEXT 5
1140 RESTORE r(room)
1150 FOR e=USR "t" TO USR "u"+7: READ a: POKE e.a: NEXT e
1160 LET ink#INT (RND#5)+1
1170 IF ink#4 THEN GO TO 1160
1180 FOR e=1 TO 5: IF v(e)=room THEN PRINT INK 6:AT 14,14:" "
1185 LET a=10; LET b=20
1190 NEXT @
1200' RETURN
```

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8000 DATA 0,0,0,14,63,113,192,128.0,0,0,6,141,255,246,0 8025 DATA 112,137,139,79,47.31,15.7.3.135,238,252,252,248,248,224 8050 DATA 15,16,39,67,72,39,16,15,240,8,116,50,2,196,8,240 8075 DATA 0,127,128,190.189,65,63,31,0,1,130,132.26,255,254,252 8100 DATA 3,715,15,15,15,7,3,192,224,240,240,240,240,240,224,192 8125 DATA 11,12,4,7,107,217,128,0,216,48,32.224,214,155,1,0 B150 DATA 7,7,247,183,247,223,247,82,255,255,255,255,255,255,255,255,134 8175 DATA 0,255,0.255,0,255,0,255,0,255,0,255,0,255,0,255,0 8200 DATA 0,0,0,15,255,15,0,0.0,0,1,227,255,227,1,0 8225 DATA 7, 14, 12, 15, 31, 37, 73, 219, 224, 96, 32, 224, 248, 164, 146, 219 9000 REM define graphics 9010 RESTORE 9020: FOR g=USR "a" TO USR "k"+7: READ a: POKE g,a: NEXT g 9020 DATA 47,33,61.33,47,33,61,33,0,0,255,68,85,85,17,255,132,188,132,244,132.18 8,132,244.255,136,170,170,34.255,0.0.2.0,7,8,19.36,41,42.0.0,240,8,200,36,148,84 ,84,148,36,200,16,224.0,0,42,41,36,19,8,7,0,0 9030 DATA 60,255,66,66,66,60.255,181,187,181,175,207,126,68,68,198 9040 DATA 0,0,0,255,255,255,129.255 9050 REIURN 9100 REM array of maze 9101 REM as denotes exits 9102 REM r denotes subroutines 9110 DIM v(5): DIM a(34): DIM c(34): DIM a\$(30,4): DIM c(30) 9120 RESTORE 9130: FOR e=1 TO 30: READ a\$(e): NEXT e 9130 DATA "23","234","4","23","234","34","13","12","234","134","1","13","123","4 0, "12", "1234", "4", "13", "123", "34", "3", "13", "3", "13", "1", "12", "14", "12", "124", "14 9135 LET pos=8000 9140 FOR e=1 TO 30: LET r(e)=pos: LET pos=pos+25: IF pos=8250 THEN LET pos=8000 9150 NEXT @ 9160 RESTORE 9170: LET aa=.125: LET bb=.25: LET cc=.5: LET dd=5: LET ee=7: FOR e =1 TO 34: READ a(e),c(e): NEXT e 9170 DATA cc,ee,cc.ee.aa.ee.aa.ee.aa.ee.aa.ee.bb.ee.bb.2,aa.ee.aa.ee.aa.ee.aa.ee ,bb,9,bb,ee.bb.ee.bb.dd.cc.dd.cc.9.cc.dd.aa.dd.aa.dd.aa.dd.aa.dd.aa.dd.aa.dd.bb.dd.bb.dd.bb.2.aa.d d.aa.dd.aa.dd.aa.dd.bb.dd.bb.2.bb.4.bb.dd.1.ee 9190 RETURN 9200 REM initialise 9205 GO SU8 9500 9210 FOKE 23658,8 9220 GD SUB 9000 4230 GO SUF 7100 9240 LET time: LET objec: LET Mach: LET in =5: LET room=16: LET lives=3 9242 FOR e=1 TO 5 9245 LET v(e) = INT (RND*30) +1: FOR c=1 TO ==1: IF v(e) =v(s) THEN 90 TO 9245 9247 NEXT 8 9248 NEXT @ 9250 GO SUB 1000 9260 LET x=10: LET y=10

```
9290 RETURN
9300 REM update lives
9310 LET lives=lives-1
9320 IF lives=0 THEN GO TO 9400
9330 LET x=10; LET y=10: GO SUB 1000
9340 GO TO 20
9400 REM new game
9410 CLS : PRINT AT 10,5; "Press '5' for a new game": AT 14,5; "You collected ":obj
;" objects"; AT 16,5; "You lasted ";ti:" time units"
9420 FOR e=1 TO 34: BEEP a(e),c(e): IF CODE INKEY$=83 THEN RUN
9430 NEXT @
9450 GO TO 9420
9500 REM mc sound
9520 RESTORE 9530: FOR 0=42500 TO 42520: READ W: POKE q,N: NEXT q
9530 DATA 33,50,0,17,125,0,6,40,229,213,197,205,181,3,193,209.225,35,16.244,201
9540 RETURN
9600 REM game completed
9604 CLS : PRINT AT 4,2; "Congratulations you have been": AT 6,2; "saved from an aw
ful fate by"; AT 8,2; "collecting the five gold bars."; AT 10,2; "You took ";ti;" ti
me units"; AT 16, 10; "WELL DONE": PAUSE 0
9605 PRINT AT 12,7; "Press any key"
9610 POKE 42501,45: POKE 42504,5: POKE 42507.100
9620 RANDOMIZE USR 42500
9630 IF INKEY$<>"" THEN GO TO 9400
9640 GO TO 9620
```

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48K SPECTRUM PROGRAM =

Mission: to search out new civilizations. Hazards: force field walls and asteroids. Author: David Moore



1 HEM ABTRO JOH 300 pa. VID HOORE 2 CLEAR 49999) LET RAW"?": LET CAMPA": LET PP="0": LET HAW"""; PCHE 23400,8: BRIGHT 1: BORDER &: INC 7: PAPER &: ELS : PRINT AT 18,10; INC 7: PAPER 7: FLAGN 1; "PLEARE NOIT": DO 510 9000 12 REM VANIANCE 12 NER VARIANCES 13 DIM B(3): LET NO-D: LET B(3)=1000: LET 5(2)=2000: LET 0(1)=3000 14 LET AA-90: LET ND-00: LET CC-83: LET E-1: DIM D(3): DIM V(3): DIM A(3): DIM F(3): DIM N(3): LET F(2)=0: LET F(2)=00: LET F(3)=03: LET A=0: LET D=1A: LET SE =0: LET L1=3: LET N=0: LET TAP=13 15 LET RELI-MER LET BARE LET REGI-BES LET RELI-MES LET RELI-MES LET REGI-MES LET REGI-MES LET REGI-MES LET REGI-MES DE TO 2000 16 CLE : PEINT AT 10,111 100 21 PAPER 71 FLAME 12 PREAME MAIT'S 40 MLM SMMM 17 POINT AT 10,111" ID DIN ADISOBIL PRINT AT B.B. DNC 71 PAPER B. DVCH ISHO 19 PRINT AT 12,10;" 20 FOR 8=17 TO 21 THE FOR ANY TO I PRINT AT DURING THE AT"C"S NEET A 52 PRINT AT BURY INF 5)"S", INC 72AT W.B. "OTC PAUDE ING 55 REH START OF LOOP SA IF NY HE DIEN DO TO AS SA IF NY HE DIEN DO TO AS AR IF INCEVENIE THEN LET BARAS 61 IF BARDY THEN LET BADY 63 TF BI-2 THEN LET B-2 64 IF INVEYEND THEN OD SUD ADDR 45 LET A-LIDH 1200 46 PRINT OT 0.11 DR DI SCORE "10CLAT 0.131"LIVER "1LJLAT 0.221"LAMEND "120" 69 FOR Ant TO 3 78 PRINT AT 21, AND+241 INK 61"5" TI NELT A TO LET NON-2 #2 PRINT AT 21, RND+24) BRIGHT 11 186 51"1" RD 12 NO2 DBEN PRINT AT 4,81" "IAT 7,8+21" "JAT 7,0-21" "IAT 4,0-11" "JAT 4,0 114" 170 IF NO-100 THEN PRIME AT 21,0004295 INC 22"S" IVE IF IC-SOME OR SC+10000 THEN LET LINLING 2000 IPSC-1000 OF SC-2000 THEN LET 24P-24P+1 300 00 TO 55 400 N2M END OF LOOP 2000 FUM BLOW OF THE FOR THE PLANE OF THE PART TO ST THE INF (HAD-D-2); NEAD BA: PRINT AT 7,0:00: HEAD DAL FRINT AT 0,0:00. HEAD TO PLEP .1.7 2000 NETT A 2006 106 7 2007 OSSTONE 9720 STATE RANDONLITE LIST STATE 2892 LET LINES-1 2044 IF LINE ISEN OU TO ME 2125 MORDER 8 2130 PRINT AT 10,11; FLADH 1: (AD 5; PAPER 1: GAME OVER"; INC 1: MAPER 4:AT 7,15 2135 FOR ANS TO 150: AELT A 2140 IF GENGIN THEN BO SUB FURN 2440 IF GENGIN THEN BO SUM FURN 2440 IF GENGIN THEN FURN 2440 IF GENGIN 2440 IF GE 2000 HEM INTRODUCTION LOOP 2581 CLS 1 00 SUN 7515 2583 REDICER YORE 2583 FOR AND TO SA 2584 READ IN ARAD LI DEEP K.L. 2528 NEXT A 2560 CLD / FLOT 0,173: DAM 200,0: DAM 0,175 DAM -255,0: DAM 0,175 2570 FRINT INC 5:47 3,71°D - 3 C C S C'(AF 3,12; INC 4: FREEMART': FAUNE 20, F CA A=0 T() 8: FEAD 4: FEAD 4: READ 4 2500 POLAT AT T.11 IAK DI PAREN BI "A 11110

Take a journey through hyperspace and search out new civilisations who will sustain you, in this game for the 48K Spectrum.

Your mothship has suffered damaging attacks from hostile forces. You have been dispatched on a mission to a distant planet many light years away.

En route, you meet many hazards which could foil your plans, Blue aliens will try to impede your progress; shoot them down and you'll gain extra points. Yellow asteroids also pose a danger — if you can destroy them, bonus points will be yours.

But that's child's play in comparison with force field walls which will block your path, and red asteroids, If you hit the red asteroids with your lasers, you lose a life;

As you go, you can pick up extra lives and lasers. Take your courage with you on your venture through darkest space — you'll need it!

Brist 12.

How it works

2-15 set up variables 55-300 main loop 2000-2490 explosion routine 2500-2800 introduction screens 3000-3090 firing routine 4000-4010 set up force field walls 5000-5040 draw mothership 6000-6010 hyperspace routine 7000-7690 hall of fame 8000-8080 instructions 8500-8580 redefines keys 9000-9450 data for character set

T107 13.11 ** 20 VE PHINT AT 16,41 INL 61" . . 1102 12:41 :AT 10.4.-ALL REAL PROPERTY AND ALL REAL PROPERTY AND m:sat 28.4; . 2608 PAUSE 158 2618 CLR > PLDT 8,175: DRAM 250,8: DRAW 8, 175: DRAM -255,8: DRAW 8,175 2628 PRINT AT 2,7: INN 3;"A B T A G Z G N E"; OVER 1;AT 2,7;" HT* - RIGHT*1 TABLE PRIME AT 14.4; THE 4; FO; " FINE"; AT 14, 20; THE 6:HE:" - HYPER-2653 REDTONE 1000 PASE READ AT READ LT DEEP H.L TATE OF THEY ALD " THEN BO TO STOR 2000 HELL A 2044 00 10 2044 27HE IF INCEYPANIA INCH BO TO BUILD 2718 IF INKEYP-B" THEN DO TO 10 2728 IF INNEYS+"#" THEN OU TO ESHI 2998 00 10 2em ----FIRING PRI 17 ZAPC-8 THEN RETURN 3002 17 30-3000 THEN OD 5400 4000 2003 FOR D-9 TO 13. PRIMT AT 0.01 2NE 31"1" 3005 IF ATTR (D+1.01-70 THEN LET 50-50-30 3006 IF ATTR (D+1.01-69 THEN LET 50-50-30 3007 1F ATTH (D+1, 01+66 THEN LET L1+L1-1 3000 JF L1++0 THEN BD 10 2150 SWIE NEET D 3878 LET ZAP-ZAP-1 3858 FOR YHE TO LA STEP 2 5000 MEEP 0.0123,7 SUTE NEXT Y Selle FOR D-9 TO 131 PHINT AT D.B(* JOUS NEAT D 3898 RETURN HAN INK **ABLE RETURN** SHOE NER DRAWING PROCEEDED 5005 INN By PLOT 131,169: DRAW 44,-24,-0.1; DRAW 2, 16,-0.7; DRAW 53,-12,-0.2; D RAW 8,-19,-2,3; DRAW -33,4; DRAW 13, 9,-0.1; DRAW -32,0,-0.5; DRAW 13,9; DRAW 7, 8: DRAH -32.8 3010 DAM -0,10,0,4: 304W -11,2,4.3: PLOT 175,142: CHAR -44.0: PLOT 179,127: 844



er -40,0: FLOT 174,131; Dinne -5,10,0.4; Dinne -24,0: Dinne 6,-10; Dinne 23,0: FLOT 1 40,141; Dinne 5,-10; Dinne -14,0: Dinne 0,10; Dinne 7,0 5020 FLOT 131,147; Dinne -44,-24,0 1; Dinne 5,-14,0,7; Dinne -53,-12,0,2; Dinne 4,-14,2; 3; Dinne 33,0; Dinne -13,-7,0,1; Dinne 32,0,0.5; Dinne -15,7; Dinne -7,0; Dinne 3 2,0 HIM 2000 0,16, 0,47 2000 11,2,0,0 PLOT 07,1431 2000 44,07 PLOT 03,127; 2000 40 .07 PLOT 07,1331 2000 3,10,-0.92 2000 24,07 2000 -6,-507 2000 -23,07 PLOT 122,14 11 2000 -5,-107 2000 34,07 2000 0,107 2000 -9,01 SEND SHE 7: RETURN HYPERSPACE GROW PREM ABRS PRENT AT 7,81" "IAT BUBL" "I LET BHONDH291 PRENT | SHC DIAT 7,81"D"(AT B.B. 1HC 71*5* ARCH RETURN THE REN . HALL OF FARE THEN CLE & PRINT AT 1,0; INC 7; WELL & DISH S"SAT 1,0; OVER 1;" 7830 PRINT AT 3,8; INC 3; "YOU HAVE ACHIEVED ONE OF TODAYS HIGHEST SCORES. BELECT YOLR INITIALS NITH THECENTRO. L KEYE AND PRESS FIRE TO EXTER.* 7840 LET FAAS THEM PRIME AT 15, 12** (20E) 12 IAN ACCHRS F 7855 FOR ANS 70 SHE HELT A

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9460-9630 data for UDGs 9700-9750 data for white noise 9760-9770 data for explosion 9800-9810 data for tune

Variables

B x position of space ship R\$ move spaceship right L\$ move spaceship left F\$ fire

H\$ hyperspace HS high score S score S(1) third highest score S(2) second highest score S(3) first score

7540 PRINT AT \$ 31 DR 71 H 1 G H E S T S C O H C S'1 OVER 11AT \$,31". THE INC 7: PLOT B.B. SHAM 255.4: SHAM B.175: SHAM -255.4: SHAM B.-175: PRINT AT 1,34 ENR 24 OVER 51" 74 TO RETURN ONDOR REM INDTRUC DANS CL.B INDTRUCT LOND **10030** PRINT AT 10.01 INC 41 AVIOD ALL ALIENS, MISSILES, . IF NOD ZAP A RED ASTEROID YOU MILL LOOS A LIFE." **1040** PRINT AT 13.01 INC 41 VOID HAVET 15 = CASEASASTEROIDS AND HALLS 3 - LIPER YIN NEED: * SUBB POINTE - FOR AN EXTRA LIFE YOUR POINTE - FOR AN ETTAL LABORT COSC PRINT ON INK 2: PAPER 7: FLAGH 1:" PREME SPACE KEY TO CONTINUE COSC FOR AND TO T: PRINT OVER 11AT 1.111 INC 6:" 0044 00 10 0040 0070 002P 1,241 000P (.12 0000 00 10 2410 DOM: N 0525 PRINT IN SILES PRINT AT 4, 31 100 51"TO NOVE RIDET "11 IMPUT RES IF LEN R 4111 THEN OO 10 8535 INE SURFI PRINT AT BUSY INC 41"TO FIRE THE IMPOT FOR DF LIDE F. ACHI THEN OD TO 0548 8545 PRINT INK SYFMI PRINT AT 18,5) THE STITL HYPERBACE "II (MPLT HE) IF LEN HAN HI THEN BO TO 8545 BSA7 PRINT 2400 Sares USAN PRIME AT 16,11; INC 6: PAPER 1; PLANE 1; DOOD LUCKI': PAUNE INE PAINT AT L 0.4; INC 5; VOULL NEED IT' 0540 PRINT ON; INC 3; PAPER 7; FLANE 1; PRESH ANY KEY TO CONTINUE. 0570 IF INCEVERS'" THEN GO TO 0500 1575 DO TO 1570 ESTS DO TO MOTO ESTS DO TO MOTO NUMBRING OFFER -1,244 DEEP -1,127 BO TO 2610 NUMBRING PORE 23606,00 PORE 25607,244 NEXT R 10, 7, "ABCDEPENDIJEL MACEPENDETLAALET?": MEET WEIGE FOR I-AAI20 TO ACTE? WEAD T, WEAD SADATEN: ACTS I VIEW DATA B. 126, VE. VE. VE. VE. U. . VIEW DATA B. 126, VE. VE. VE. VE. 126, E VIEW DATA B. 126, VE. VE. VE. VE. 126, E VIEW DATA B. 126, VE. VE. VE. VE. 126, E VIEW DATA B. 126, VE. VE. VE. VE. 126, E VIEW DATA B. 126, VE. VE. VE. VE. 126, E VIEW DATA B. 126, VE. VE. VE. VE. VE. E VIEW DATA B. 126, VE. VE. VE. VE. VE. E VIEW DATA B. 126, VE. VE. VE. VE. VE. E VIEW DATA B. 126, VE. VE. VE. VE. VE. E VIEW DATA B. 126, VE. VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. VE. E VIEW DATA B. VIEW OF VE. VE. VE. VE. VE. VE. WE. V 9330 DATA 0, 106, 106, 106, 106, 106, 106, 107, 0 9360 DATA 0, 207, 107, 24, 132, 107, 107, 0 9360 DATA 0, 20, 90, 90, 126, 0, 0, 0 9360 DATA 0, 20, 17, 24, 40, 46, 25, 0 9360 DATA 0, 126, 107, 106, 106, 114, 126, 0 9370 DATA 0, 24, 120, 24, 24, 24, 124, 0 9370 DATA 0, 24, 120, 24, 24, 24, 124, 0 9370 DATA 0, 126, 4, 77, 6, 6, 176, 0 9400 DATA 0, 96, 95, 109, 126, 4, 4, 0 9410 DATA 0, 126, 96, 96, 126, 7, 126, 0 9420 DATA 0, 126, 96, 76, 126, 90, 126, 0 9430 DATA 0, 126, 96, 76, 126, 90, 126, 0 9430 DATA 0, 126, 96, 76, 126, 90, 126, 0 9450 DATA 0.124.4.4.4.4.4.4.9 9450 DATA 0.124.4.4.4.4.4.9 9450 DATA 0.124.9.90,124.9.90,124.9 7450 DATA 0.124.90,90,124.2.7.0 9450 DATA 0.124.90,90,124.2.7.0 9450 DATA 0.124.90.90,124.2.7.0 9450 DATA 0.124.91,124.2.7.0 THEF FOR BAR TO AVIII VATE READ OF PORE BUCK PRENT AT 19, 11 INC &F PAPER BIT SUBJECT CONTRACTOR'S NEXT 7300 0474 254,254,170,124,40,56,56,56,16 7510 0574 0.0,16,40,40,84,04,04,170 7520 0474 40,126,127,63,255,254,754,78 9338 DATA 182, 34, 124, 193, 195, 295, 235, (53 9540 DATA 56,16,56,16,56,14,56,14,56,16 9550 DATA 200,60,68,250,17,17,250,8 0540 DATA 24,57,127,255,255,127,17,24 9570 DATA 24,154,254,255,255,254,154,24 9580 DATA 0,0,0,40,16,10,56 9590 DATA 16,16,40,0.0,0.0,0.0 TARE DATA 2,14,16,2,48,48,48,2,188 TALE DATA 2,45,48,8,16,14,14,8,8 9678 DATA 16,16,15,150,60,8,8,198 9638 DATA 8,8,49,158,16,16,16,84 9788 00H MHITE HOISE DATA WITH FOR X-SHORE TO SHELA 1728 READ A: PORE L.A \$738 HEFT X 4348 DATA 33,48,10,43,126,211,234,46,7,49,32,-5,123,132,288,24,-14 TTO RETURN 9748 RET E GPL08 KW 12, 191, 191, 11, 12, 191, 24, 191, 191, 12, 191, 191, 11 TUNE REP. TUNE TUNE 9810 DATA .03,12,.03,11..05,18,.2,7,.03,7,.33,5,.2,8,.05,8,.2,3,.05,8,.2,7,.05,8 9110 DATA .03,12,.03,11..05,18,.2,7,.03,7,.33,5,.2,8,.05,8,.2,3,.05,8,.2,7,.05,8 2..2.4.405,-1..2.-2.405,-3..2.-3.405,-7..2,-6.405,-17.405,12.405,11.405,14.2.9. .405,7..25,5..35,4..15,5.15,9..5.3 E-C Fer EAG. No.11 1=2 2=2 gan LaL Plants Marks

ZK User, a free mogatione with Nome Computing Weekly 31 July 1984. Page rand

7520 10 5(3) 5(2) THEN LET NO-S(2): LET 5(2)-5(3): LET 5(3)-60; LET 0(1)-8(1); LET 0(2)-6(2): LET 0(3)-6(3); LET 8(1)-6(3): LET 8(2)-6(2): LET 8(3)-6(3): LET 4(1)-6(1): LET 8(2)-6(2): LET 8(3)-6(3): LET 4(3)-6(3): LET 8(3)-6(3): LE

7518 PAUSE 100; LET 5(3)-0C 7513 RETURN 7515 LET R11-AA: LET R(2)-R0; LET R(3)-CC 7509 IF 5(3)-5(2) THEN LET NO-5(2): LET 5(2)-5(3): LET 5(3)-60; LET 0(1)-R(1): 7509 IF 5(3)-5(2) THEN LET NO-5(2): LET F(3)-5(3): LET 5(3)-60; LET 0(1)-R(1): 7510 LET 0(1)-10(1), LET NO-5(2): LET R(3)-5(3): LET 1(3)-60; LET 0(1)-R(1): 7510 LET 0(1)-10(1), LET NO-5(2): LET R(3)-5(3): LET 1(3)-60; LET 0(1)-R(1): 7510 LET 0(1)-10(1), LET 0(1)-10(1), LET 0(1)-10(1); LET 0(1)-10(1);

7115 FOR A-1 TO 18: NELT A 7117 PRINT AT 15,(11+11+E); THE ALCORE F 7138 IF INDEVE-FE AND E-3 THEN LET CONF. LET E-E+1: LET F-ASI SEEP .1,12: 60 TO 7518 7588 60 TD 7859

FIND IF INKEYERE AND CHI THEN LET ANNEY LET CHEMIC LET FRADI DEEP .1.12 FINS FOR ANI TO DRA METER FINS PRINT AT US.(11+(2+E)); ING ALDRE F FINS IF INKEYERE AND END THEN LET DENFY LET ENEMIS LET FRADI DEEP .1.52

7040 17 IAKEYD-MP THEM LET F=F=1 7870 17 IAKEYD-LA THEM LET F=F=1 7000 16 F145 THEM LET F=40 7890 16 F145 THEM LET F=40

ZX81/SPECTRUM PROGRAM

MOM

maths

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Use your computer to help you with your maths homework. All you have to do is specify a mathematical function and the computer will draw on screen what the function looks like, whether it's a parabola, straight line, or whatever.

Up to six functions may be shown on screen at any one time. Please note that you cannot input x**2 for both

These programs are for the ZX81 and Spectrum. Now, over to you to let your imagination show you how to make the best use of this utility.

Variables

- X\$ x of oy
- y\$ y of ox
- B draw the axes
- u number of functions you can input (six)
- Is function
- X all abscissae (-00 + 00)
- G y on screen depending on position of axes and the function I\$ (f(x))
- U x on screen depending on position of axes and x
- Q,W co-ordinates of

How it works ZX81

- 2-33 draw screen, position axes co-ordinates
- 40-51 variable x^{\$}, abscissa of oy exis, variable y^{\$}, ordinate of ox exis
- 53 delete all co-ordinates from lines 32-33 and where y of ox was written
- 54-58 draw axes
- 90-100 possible functions on
- 100-110 Is function
- 111-121 delete previous data to enable other functions to be input
- 130 print function
- 140 possible abscissa between -20 and 20
- 145-148 G = y on screen, V = x on screen
- 150 screen limits
- 160-170 draw curve

171-172 options

- 180-191 choose option
- 200 press K to input another function
- 300-301 press P to restart
- 400 press R to print cursor at 20,19

ZX81 listing

2 PRINT AT 0,0; "

56 PRINT AT 8,10+VAL X\$;"."

	S7 NEXT B
10 FOR A=1 TO 20	58 PRINT AT 10-VAL Y\$,0; """;AT
20 PRINT AT A,0; "%	10-VAL Y\$,21;"0";AT 0,10+VAL X\$
	;""";AT 21,10+VAL X\$;"""
30 NEXT A	60 REM
31 PRINT AT 21,0;"	
	90 FOR U=4 TO 10
32 PRINT AT 9,10; "0"; AT 1,10;"	100 PRINT AT 2,22; "F(x)=?"
9";AT 20,10;"-9"	110 INPUT I\$
33 PRINT AT 10,10; "+0"; AT 10,1	111 PRINT AT 18,24; "
;"-9";AT 10,19;"11"	120 PRINT AT 19,24; "************************************
40 PRINT AT 18,22; "X DE(OY)?"	121 PRINT AT 20,24; "######
41 INPUT X\$	130 PRINT AT U,22; 1\$; AT 2,22; "
50 PRINT AT 18,22; "Y DE(OX)?"	(X)=畿 ¹⁰
51 INPUT Y\$	135 REM
53 PRINT AT 9,10;" ";AT 1,10;"	
";AT 20,10;" ";AT 10,10;" "	140 FOR X=-20 TO 20
;AT 10,1;" ";AT 10,19;" ";AT	145 LET G=20-VAL I\$-VAL Y\$-10
18,22; "	146 LET V=X+VAL X\$+10
54 FOR B=1 TO 20	150 IF G<1 OR G>20 OR V<1 OR V>
55 PRINT AT 10-VAL Y\$, B; ". "	20 THEN GOTO 170

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≣ZX81/SPECTRUM PROGRAM

410-450 control cursor 510-520 press 0 to print coordinates of point on axes 540 return to menu

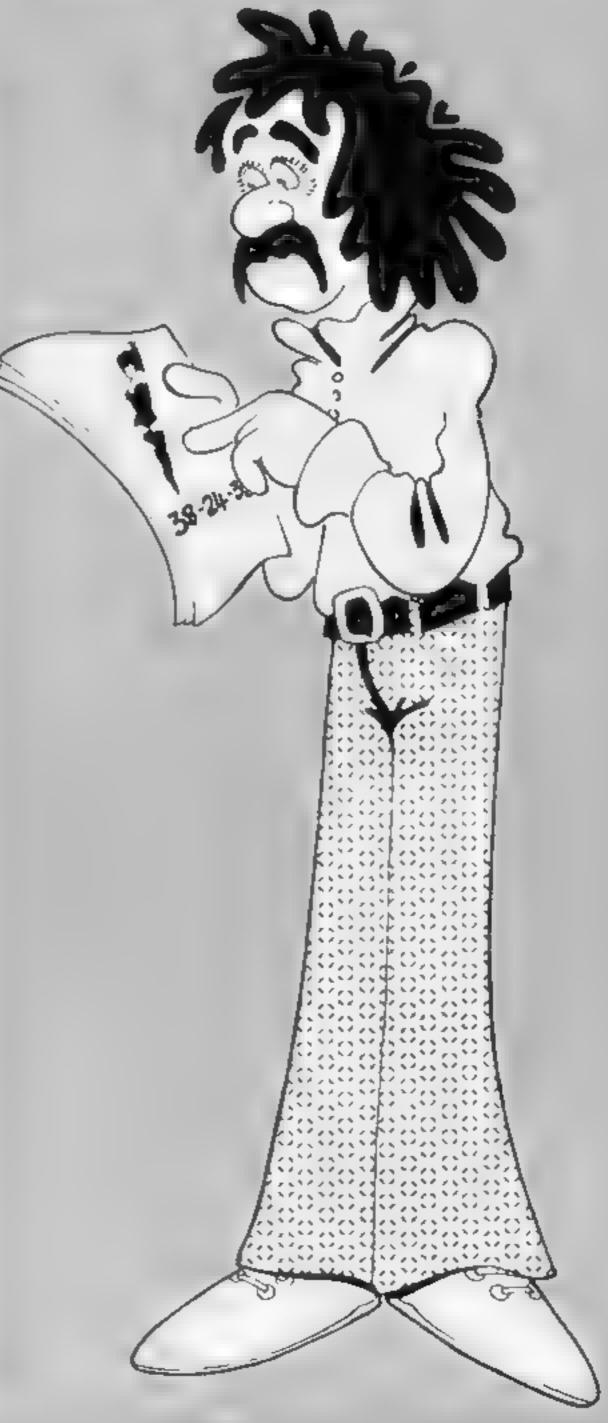
Spectrum

The program is mostly the same as for the ZX81, except for some improvements 1 go to 9000 to set up UDG 3-50 set screen 60-90 input function (up to 10) and ink

110-160 draw curve. If curve 8,5 or 16,7 then next x

170-310 options: to draw more curves on same screen; to find co-ordinates of one point; to quit present screen
400-540 move cursor up, down, left and right, when 0 is pressed, co-ordinates appear on axes
9000-9080 UDG If you've always been abysmal at maths, don't despair these programs by Guillaume Thibaudeau could give you a helping hand and restore your flagging interest

160 PRINT AT G,V; "+" 170 NEXT X 171 PRINT AT 19,24; "PLUS=+"; AT 18,24:"<==R" 172 PRINT AT 20,24; "RUN=P" 180 IF INKEY = "K" THEN GOTO 200 181 IF INKEY\$="R" THEN GOTO 400 190 IF INKEY *= "P" THEN GOTO 300 191 GOTO 180 200 NEXT U 300 CLS 301 RUN 400 LET Q=20 401 LET W=19 410 IF INKEY ="5" THEN LET W=W-411 IF INKEY = "5" THEN PRINT AT Q,W+1;" 420 IF INKEY #="6" THEN LET Q=Q+ 421 IF INKEY ="6" THEN PRINT AT Q-1,W;" 430 IF INKEY #="7" THEN LET Q=Q-1 431 IF INKEY = "7" THEN FRINT AT



```
Q+1,W;" "
 432 IF INKEY = "0" THEN GOTO 510
 440 IF INKEY ="8" THEN LET W=W+
1
 441 IF INKEY = "8" THEN PRINT AT
 Q,W-1;" "
 442 IF Q<1 THEN LET Q=1
 443 IF W>19 THEN LET W=19
 444 IF W<1 THEN LET W=1
 449 IF Q>20 THEN LET Q=20
 450 PRINT AT Q, W; "<="
 500 GOTO 410
 510 PRINT AT Q, 10+VAL X$; ABS (1
0-VAL Y$-Q)
511 LET D=ABS (-VAL X$+W-11)
520 PRINT AT 10-VAL Y$, W-1; 0; AT
Q,W;" ";AT Q,W-1;"""
540 GOTO 171
```

ZX81/SPECTRUM PROGRAM 🛲

Spectrum listing 1

```
1 GO SUB 7000
   3 LET a$#""
                                  11
  4 LET b$="
  5 PRINT AT 0,0;a*: FOR a=1 TO 20: PRINT AT a,0;b*: NEXT a: PRINT AT 21,0;a*
  10 PRINT AT 10,10; "0"; AT 1,10; "9"; AT 20,10; "-9"; AT 10,1; "-9"; AT 10,19; "11"
  20 PRINT AT 18,22; "× of (oy)?": INPUT x$: PRINT AT 18,22; "y of (ox)?": INPUT y
$
  30 PRINT AT 1,10;" ";AT 20,10;" ";AT 10,10;" ";AT 10,1;" ";AT 10,17;
" ";AT 18,22;""
 40 FOR b=7 TO 167: PLOT b,8.5*(10+VAL y$): PLOT 8.5*(10+VAL x$),b: NEXT b
  50 PRINT AT 11-VAL y$,0;"-";AT 10-VAL y$,21;"+";AT 0,10+VAL x$;"+";AT 21,10+VA
L x$;"-"
  55 REM -- ----
  60 FOR u=4 TO 10
  65 IF u=10 THEN PRINT "sorry,that's too much"
  66 STOP
 70 PRINTMAT 2,22;"F(x)=?": INPUT 14
 72 INPUT "ink? (0->6)";ink
 75 IF ink<0 OR ink>6 THEN GO TO 72
 BØ PRINT AT 18,24; ""; AT 19,24; ""; AT 20,24; ""
 90 PRINT AT 2,27;"";AT u,22; INK ink; i*
 100 REM -----
 110 FOR x=-167 TO 167
 120 LET g=8.5*(VAL 1$)/8.5+(VAL y$+10)*8.5
 130 LET v=8.5*(x)/8.5+(10+VAL x*)*8.5
 140 IF g<8.5 DR g>167 DR v<8.5 DR v>167 THEN 60 TO 160
 150 INK ink: PLOT v.a
 160 NEXT X
 170 INF 0: PRINT AT 19,24; "more=m"; AT 18,24; "<==r"; AT 20,24; "exit=p"
 180 IF INKEY =""" THEN GO TO 200
 183 IF INKEY$=""" THEN GO TO 400
 185 IF INKEY#="p" THEN GO TO 300
 195 GO TO 180
 200 NEXT u
 300 ELS
 310 RUN
 400 LET q=20: LET w=19
 410 IF INKEY ="5" THEN LET w=w-.1: PRINT AT q, w+1;"
 420 IF INKEY#="6" THEN LET q=q+.1: PRINT AT q-1,w;"
 430 IF INKEY ="7" THEN LET g=g-.1; PRINT AT g+1,w;"
 432 IF INKEY #= "0" THEN GO TO 510
 440 IF INKEY ="0" THEN LET w=w+.1: PRINT AT q,w-1;" "
 450 IF qK1 THEN LET q=1: IF w>19 THEN LET w=19: IF wK1 THEN LET w=1: IF q>20 TH
EN LET o=20
 460 PRINT AT 0.W! "<="
 500 GO TO 410
 510 PRINT AT q,10+VAL x$; INT ABS (10-VAL y$-q)
 520 PRINT AT 10-VAL y*, w-1; INT ABS (-VAL x*+w-11); AT q, w; " "; AT q, w-1; ""
 540 GO TO 170
9000 POKE USR "a"+1,BIN 00000000
9010 POKE USR "a"+2,BIN 0000000
9020 POKE USR "a"+3,BIN 00011100
9030 POKE USR "a"+4, BIN 00100010
9040 POKE USR "a"+5,BIN 00100010
9050 POKE USR "4"+6,BIN 00011100
9060 POKE USR "a"+7, BIN 00000000
9070 POKE USR "a"+8, BIN 0000000
9080 RETURN
9090 SAVE "geom" LINE 1
```

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Bewarehouse 48K £5.95

Positive Image, 7 James St, Brigeton, Glasgow

An enjoyable game which you'll want to play again and again. Bewarehouse plays a tune when loaded, with Welcome flashing across the colourful loading screen. A ghost rushes across next screen top introducing the complete instructions.

The object is to get as many men as possible across the warehouse floor and up the ladder to safety. But the building is haunted and the ghosts don't like intruders, so they roll barrels and throw boxes at them - with more on each of the 12 levels. Ghosts appear at higher levels to

chase or obstruct intruders.

Your energy, shown screen top, is limited and drains away faster when you jump to catch the red pipe in order to avoid the barrels. At screen bottom are lives left out of five and current score. A satisfying "bop" noise accompanies being hit by a box, which moves from side to side when failing down towards you. and the figure revolves when hit by a barrel.

When no lives are left there is a Hall of Fame, offer of another game, instructions or guit. T.W.

instructions	80%
playability	80%
graphics	70%
value for money	65%

Jackpot 48K £5.50

Michael Horgan, Felix Hee, 22 Percy Rd, Isleworth

Only available through mail order, this fruit machine simulation in BASIC is similar to many listed in magazines. However, it saves time to have one on cassette if - like me you're lazy and enjoy gambling with pretend money.

Some nice features - so often missed by programmers - are a redefined character set, sounds announcing loading started and music when complete. Unlike a real machine the symbols do not move down in sequence, but are completely random - so you can't cheat!

A very colourful loading

screen gives way to complete instructiona spread over two screens, with the opportunity to ZX print the list of payouts. There are hold/cancel and gamble/collect facilities, full use of sound with a jackpot ture, nine skill levels, a 27 ways to win feature, entering of name, score rating comments and high score win. You start with £1.90 and take your chance!

Even though it's not unique, I found it fun and quite addictive. lost all my cash in hand at one point and was told: "You're skint" - how truel T.W.

instructions	70%
playability	70%
graphics	60%
value for money	65%

Les Flics 48K £6.95

PSS, 452 Stoney Stenton Rd, Coventry CV6 5DE

One side of the cassette loads for keyboard and the other for Kempston Joystick. A printed instruction booklet is included. The game starts straightaway with a town plan with nine buildings, parks, two patrolling police cars and the pink creature ... with a tail

Les Flics, under ze commant ov Unspecteur Cleudeau of ze Suraté, neu aggsactly weut jew are eup teu - yew are geuing tew trah en steal a gem stone in hees care.

Also, Cleudeau has Gendarme Kaolin (disguised as a chef), his trusty servant, to 'elp heem - so yew foel, yew 'ave neo chance ... OF 'ave yew?

Go around the town, entering buildings whose interiors are platform games and pick up various items, find out what they do, and finally get the diamond - the Purple Puma.

Fast moving French police, hindered by the bungling Inspecteur Cleudeau, generously allow you three attempts at controlling that pink character --before failure leads to the E-station.

From the moment the French tune announces Game Loaded you need all your wits about you to navigate narrow roads, evade Les Flics and find how each item helps you on your colourful T.W. quest.

Instructions	75%
playability	85%
graphics	80%
value for money	80%

* * *

Quest for Eternity 48K £7.99

APS, No. 1, Golden Square, London W1R 3AB

This is an intelligence test to prove your suitability to become a Mester of Eternity. You are deposited inside a non-functioning spaceship and left to find the bits to make it work, find a teleportal booth on a distant planet and return to the Chember of Creation.

This is an all text adventure, written in BASIC, but surprisingly fast even so. It has a simple input interpreter, allowing two word verb-noun commands, and abbreviations for directions. The usual save to tape facilities are available. I must admit to not liking the colour scheme for the screen, but perhaps that's just personal. The descriptions of locations, important in creating atmosphere, are quite effective.

Try as I may, I can't get this pesky spaceship to work! In fact, I can't even get my spacesuit on. I've pressed buttons, been suffocated, tried to open a packing case with the laser knife - all to no avail. I even tried to go to sleep but my Spectrum would't let mel

If you like the idea of the plot, and you have a few hours to spend, this may be for you. D.M.

instructions	96%
playability	85%
graphics	N/A
value for money	65%

Basically this is a computer

enemies and push them back. Deploy them well and you win, but over stretch yourself or fail to reinforce soon enough and... The game is written in BASIC and is very slow in deciding what has happened during a battle. Unfortunately you see and hear nothing of It. Whilst the screen presentation is underliably clever it just doesn't measure up to the competition from machine coded

using spritter Simila

Invasion 48K £6.99

APS, No. 1, Golden Souare, London W1R 3AB

"If you don't want an intellectually challenging strategic wargame, put the tape back on the shelf!" reads the blurb. A bit of an overstatement, 1 feeds

board game in which you command eight armies represented by tanks on a numbered grid. Your opponents appear from the north. You have the option to reinforce, move or decrease the strength of an army in each turn. Resources are limited by the number of cities you control. Having deployed your forces, you attack your

		ALLEGRAN PRO	
Ararlike	sound	offects	would
Susan Ibu	and the	proceedi	not tin
1040 1141	DITOR HID	hincoon	Ma uh*

D.M.

instructions	95%
playability	60%
graphics	75%
value for money	70%
* * *	

Take your chances and have a gamble on these new games. They're a mixed bunch so you should find something to your taste



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How's your memory? This game will test your powers of logic and perception. Can you remember sequences of colours and notes? Try this, and you'll soon find out.

The game starts when the computer prints a square of a certain colour, and plays a note to go with it. You must then copy it. Each time, one more square is added to a maximum of 30 squares, which are displayed for you in rapid succession.

You can give yourself a pat on the back if you manage to remember all 30. Either you have a fantastic memory for colours and an excellent perception of sound — or else you've cheated.

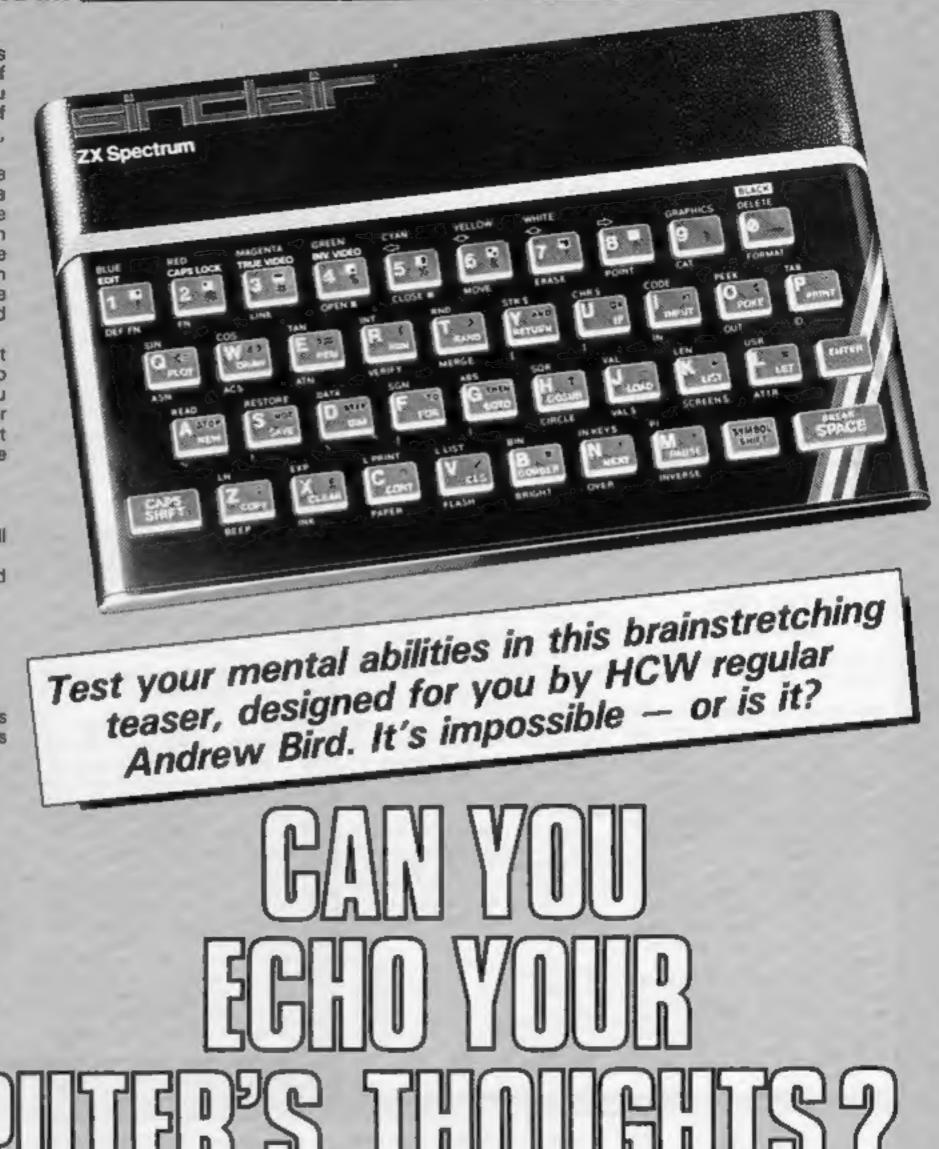
How it works

10-70 set up variables and skill level 100-210 set up arrays a, b and c 300-360 draw game 400 start of main loop 500-560 computer plays 700-760 your turn to copy 900 end of main loop 1000-1060 computer checks for correct input, ends game if wrong

2000-2010 clear colours 7000-7100 instructions

Variables

DIM e vertical position DIM b horizontal position DIM c ink colour a\$ title b\$ level skill skill level n main loop g mini loop f general purpose loop




```
1 REM Kopycat By A.G.Bird.
 5 POKE 23607,30: GO SUB 7000
10 DIM a(30); DIM b(30); DIM c(30)
20 LET a$="KOPYCAT BY A G BIRD": LET b$="LEVEL"
30 BORDER 0: PAPER 0: CLS
40 FOR f=7 TO 25: PRINT AT 0,f; PAPER RND*6+1; INK 9;a$(f-6): BEEP .02,f: NEXT
4
50 INPUT "Skill Level 1, 2, 3, 4 or 5 ? ";skill
60 IF skill<1 OR skill>5 THEN BEEP .5,0: 60 TO 20
70 BORDER 7: PAPER 7: CLS
99 REM Set up arrays
100 FOR f=1 TO 6: LET a(f)=1: NEXT f
110 FOR f=7 TO 12: LET a(f)=5: NEXT f
120 FOR f=13 TO 18: LET a(f)=9: NEXT f
130 FOR f=19 TO 24: LET a(f)=13: NEXT f
140 FOR f=25 TO 30: LET a(f)=17: NEXT f
150 FOR f=1 TO 25 STEP 6: LET b(f)=4: NEXT f
160 FOR f=2 TO 26 STEP 6: LET b(f)=8: NEXT f
170 FOR f=3 TO 27 STEP 6: LET b(f)=12: NEXT #
```

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```
180 FOR f=4 TO 28 STEP 6: LET b(f)=16: NEXT f
  190 FOR f=5 TO 29 STEP 6: LET b(f)=20: NEXT f
  200 FOR f=6 TO 30 STEP 6: LET b(f)=24: NEXTF
  210 FOR f=1 TO 30: LET c(f)=INT (RND#(skill+1))+1: NEXT f
  299 REM Draw game
  300 FOR f=1 TO 19; PRINT AT f,1; INK f/4;a$(f): NEXT f
  310 FOR f=12 TO 172 STEP 32: PLOT 28.f: DRAW 192.0: NEXT f
  320 FOR f=28 TO 220 STEP 32: PLOT f,12: DRAW 0,160: NEXT f
  330 FOR f=1 TO 2*skill+1 STEP 2: PRINT AT f,29; INK f/2;" ; INK 0;f/2+.5: NE
x
Tf
  340 FOR f=13 TO 17: PRINT AT f.29;b$(f-12): NEXT f
  350 PRINT AT 19,29; INVERSE 1; skill
  360 FOR f=1 TO 200: NEXT f
  399 REM Main loop
  400 FOR n=1 TO 30
  410 GO SUB 2000
  499 REM Computers loop
  500 FOR g=1 TO n
  510 PRINT AT a(g), b(g); INK c(g); "#####"; AT a(g)+1, b(g); "######"; AT a(g)+2, b(g); "#
 1.00
 11
  520 BEEP 1-(n/35).c(a)#3+5
  530 NEXT a
  540 FOR f=1 TO 200: NEXT f
  550 GO SUB 2000
  560 FOR f=1 TO 2: FOR h=0 TO 6: PRINT AT 21,3; INK h; PAPER 6-h/2;" Y O U R
60
          N D W ": NEXT h: NEXT f
  699 REM loop for your go
  700 FOR g=1 TO n
  710 IF INKEY = " THEN GO TO 710
  720 GO SUB 1000
  730 PRINT AT a(g),b(g); INK c(g); "manua"; AT a(g)+1,b(g); "manua"; AT a(g)+2,b(g); "manual statement of the statement of the
  740 BEEP .5.c(g) #3+5
  750 NEXT 0
  760 FOR f=1 TO 200: NEXT f
  900 NEXT n
  999 REM Computer checks input
1000 PRINT AT 21.3;"
1010 IF PEEK 23560=48+c(g) THEN RETURN
1020 FOR f=0 TO 7: BORDER f: BEEP .1,30-f*7: BEEP .1,40-f*7: NEXT f
                                                                                                                         "J BEEP 5,-4
1030 PRINT AT 21,0; INK 2: FLASH 1;"
                                                                                    WRONG
0
1040 BORDER 5: PAPER 5: CLS : PRINT AT 8,3: "YOUR SCORE
                                                                                                                     0 N";AT 11.5;"
SKILL LEVEL";AT 14,9;skill;" WAS
                                                                                       ": PAPER 6;n-1
1050 PRINT AT 21,3; "P R E S S A N Y K E Y."
1060 PAUSE 0: GO TO 10
1999 REM Clear screen routine
2000 FOR f=1 TO n: PRINT AT a(f),b(f);" ":AT a(f)+1,b(f);" ":AT a(f)+2,b(f);
   "I NEXT F
2010 RETURN
6999 REM Instructions
7000 BORDER 4: PAPER 4: INK 0: CLS
7010 PRINT "THE IDEA OF THIS GAME IS TO COPY"''THE SEQUENCE OF COLOURS SHOWN TO
"'' YOU BY THE COMPUTER. THIS IS DONE"'' BY PRESSING THE APPROPRIATE KEYS"'' WHEN
 IT IS YOUR GO."
7020 FOR f=1 TO 600: NEXT f
7030 FOR f=10 TO 21: PRINT AT f.5; PAPER 0;"
                                                                                                                    ": NEXT f: REM
(21 spaces)
7040 PRINT AT 11,6; PAPER 0; INK 6; "ZX Spectrum"; AT 12,5;"
7050 FOR f=2 TO 12 STEP 2: PRINT AT 14, f+4; PAPER f/2; INK 9; f/2: BEEP .5, f*2: N
EXT f
7060 FOR f=18 TO 24 STEP 2: PRINT AT 14, f: PAPER 1;" ": NEXT f
7070 FOR f=7 TO 23 STEP 2: PRINT AT 16, f; PAPER 1; "; AT 18, f+1; "; AT 20, f; " ":
 NEXT f
7080 PRINT AT 20,6; PAPER 1;" ";AT 20,24;" "
7090 FDR f=1 TO 5: FOR g=-30 TO 30 STEP 5: BEEP .01,g+f: NEXT g: NEXT f
7100 PRINT AT 12,28; "HIT"; AT 14,28; "ANY"; AT 16,28; "KEY": PAUSE 0: RETURN
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Factory Breakout 48K £5.50

Poppy Soft, The Close, Common, Rd, Headley, Newbury Berka

A fascinating game of skill and speed which exploits all the programmer's skills in graphics, use of colour, sound and animation.

Screen top has score, levels alpha to epailon and lives left out of three. On screen one Zirky, the robot egg-capsule, is surrounded by the self-destruct micron rays. Only you can rotate him, shooting them with a short range laser until an energy column reaches him from below and transports him to screen two on a conveyor belt. Here Zirky must cross the perilous rejection line - now out of control -

where five auto inspectors try to squash him, while a canary flies up to kill him.

He enters the lift room, where green lifts are ready to suck him up to any level he wants. He must visit all six levels, fail through 12 doors, changing their colour to red, then blue - which obliterates them - and evading alien monsters. Zirky can open four force fields on the levels to help him obliterate them.

Zirky then has to discover the factory key to reach the last screen - which is more than I T.W. have done!

instructions	100%
playability	100%
graphics	100%
value for money	100%



Bismark 48K £6.99

APS, No. 1, Golden Square, London W1R 3AB

With weather worsening, you leave behind the wreck of HMS Hood and, with a huge and powerful fleet of battle groups, your aim is to find and destroy the Bismark before she reaches the convoy routes.

Complete instructions appear after the program has loaded, with the game starting at 0600 hours on 24th May - each turn represents six hours. You have 13 turns to find and destroy the battleship before your forces must return home to refuel. Bismark has strength 30 while your total strength is 179.

The search takes place on a

Kosmic Kanga 48K £5.95

Micromania, 14 Lower Hill Road, Epsom, Surrey KT19 8LT

This colourful, multiscreen, arcade standard game kept two young visitors in stitches for a whole evening as they tried to get Kosmic Kanga through 11 screens to his spaceship, to allow him to return to his home planet.

Compatible with AGF, Protek, Kempsion and Interface 2 joystick interfaces, this program makes full use of all the potential of the Spectrum. Use of colour and sound is excellent and the animated graphics are superb.

The options screen leads on to the Airport, where Kanga bounces his way over buildings,

Automania 48K £6.95

Mikro-Gen, 44 The Broadway, Bracknell, Berks

Sub-titled Manic Mechanic, this is a must for all games players. A musical tune and comic cast list - decorating by Polly Filler and R Tex - introduce this whacky game. In his flat cap, oversize boots and with a beer belly, Wally Week with three lives has to get car parts from a store and build 10 cars. The menu offers music on/off (thanks!), demo mode, redefine keys and choice of Sinclair and Kempston interfaces. The game starts in the assembly room with tyres rolling round and car parts dropping from overhead conveyor belts.

grid with ships' positions listed by co-ordinates. Each turn you give movement orders to 12 naval groups - one moves 3, the others 2. Then you'll be told if your groups have sighted the Bismark. In fair and good weather you'll be asked if you wish to fly airstrikes, which, if they locate her, will attack.

Forces in the same area can attack her, and if stronger will win. Bismark fires first and combat can last an unlimited number of rounds, until she is sunk or you guit. A score up to 100 is given at the end. T.W.

instructions	80%
playability	75%
graphics	40%
value for money	75%

clouds, bombs, fire engines, birds and aeroplanes, collecting treasure and points as he moves. The last four items are deadly but can be removed by Kanga throwing boxing gloves at them.

He visits the desert, ocean, Atlantis, the beach, country, city and three platform games, before going to the Moon and finally his ship.

You have four lives, shown at screen bottom with your score and top score. Bonus points are added for each screen completed and key response is very good. T.W.

instructions	70%
playability	85%
graphics	90%
value for money	90%

tyres he moves into the store room, climbs ladders to collect the six pieces from various platforms which are none too sate and have gaps requiring jumping. Each new car has its parts coloured differently in a different store room and pieces must be placed in the correct positions on the cars in the assembly room.

Sam Safety 48K £7.95

APS, No. 1, Golden Square, London W1R 3AB

In this package from Computertutor, their resident character, Clever Clogs, invites you to learn the rules of road safety whilst playing a sort of maze game. The maze is a series of interlinked, well illustrated streets with all the features you would expect, cars, crossings, subways and so on. Using the cursor keys, you direct Sam on his journey. You must look left and right, using defined keys to cross safely. Every now and then a prize appears in the street. You must walk Sam up to it and identify a road sign to amass

points. Complete the journey and your ZX printer presents you with a certificate!

Perhaps the best feature is the ability to design your own map and name the streets after ones in your locality. This, together with the facility to alter the level of difficulty, makes it easy to tailor the program to the needs and interests of any child. A well designed and executed program, with interesting graphics and sound, which combines fun and purposeful learning. D.M.

instructions 100% 100% playability 95% graphica 90% value for money

* * *

Assuming Wally jumps the

Being a wally, tools and oil cans are dropped in his way.

Mikro-Gan will pay £100 for the highest score each month -so invest in this colourful game with superb graphics and animation. T.W.

instructions	100%
playability	100%
graphics	100%
value for money	100%



Rave reviews greet this cluster of new releases. Will you find the reviewers' enthusiasm catching?

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